

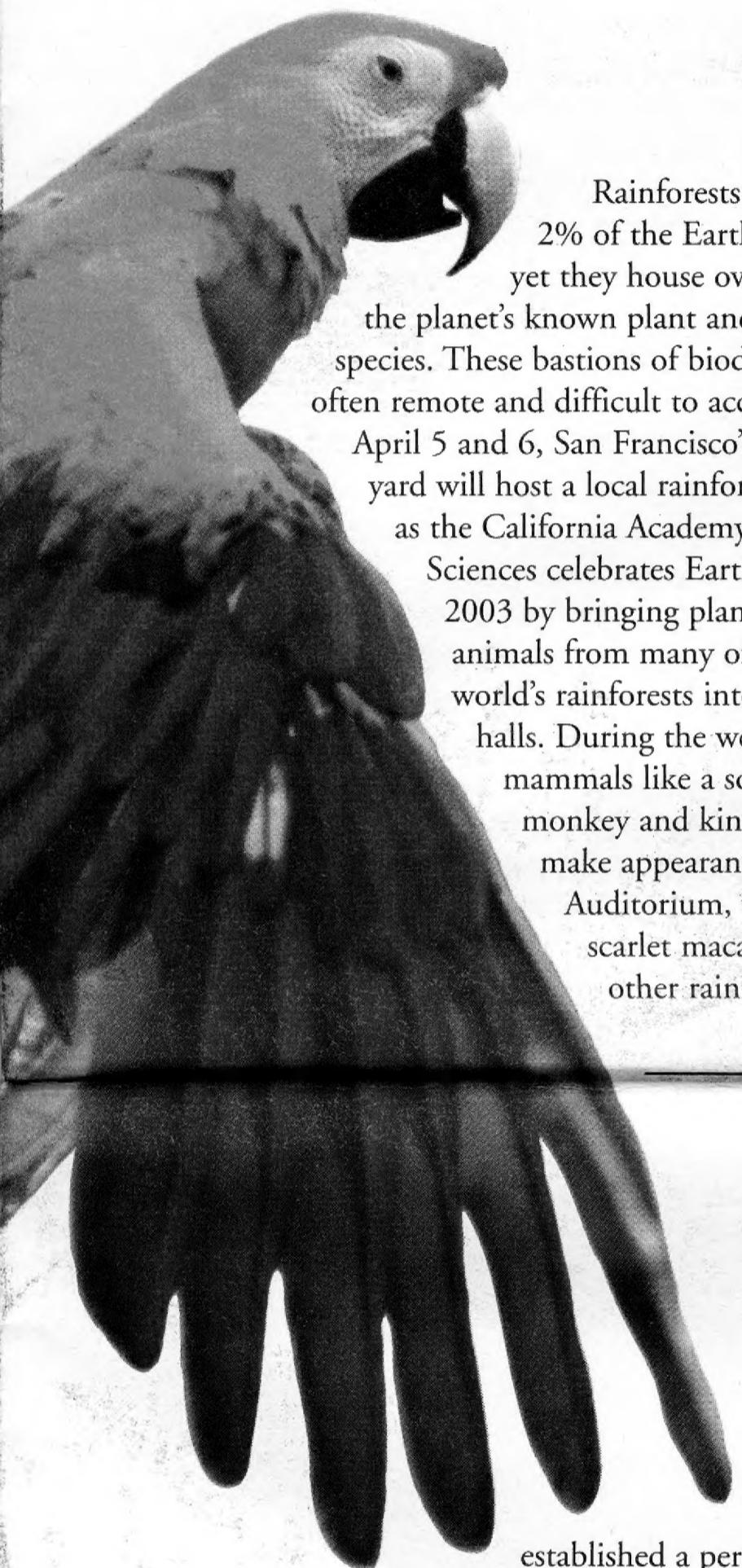
Academy

150 ANNIVERSARY

1853 - 2003

\$1

Celebrate Earth Day in the Rainforest April 5 & 6, 2003



Rainforests cover only 2% of the Earth's surface, yet they house over half of the planet's known plant and animal species. These bastions of biodiversity are often remote and difficult to access, but on April 5 and 6, San Francisco's own back yard will host a local rainforest of sorts as the California Academy of Sciences celebrates Earth Day 2003 by bringing plants and animals from many of the world's rainforests into its own halls. During the weekend, mammals like a squirrel monkey and kinkajou will make appearances in the Auditorium, while scarlet macaws and other rainforest birds

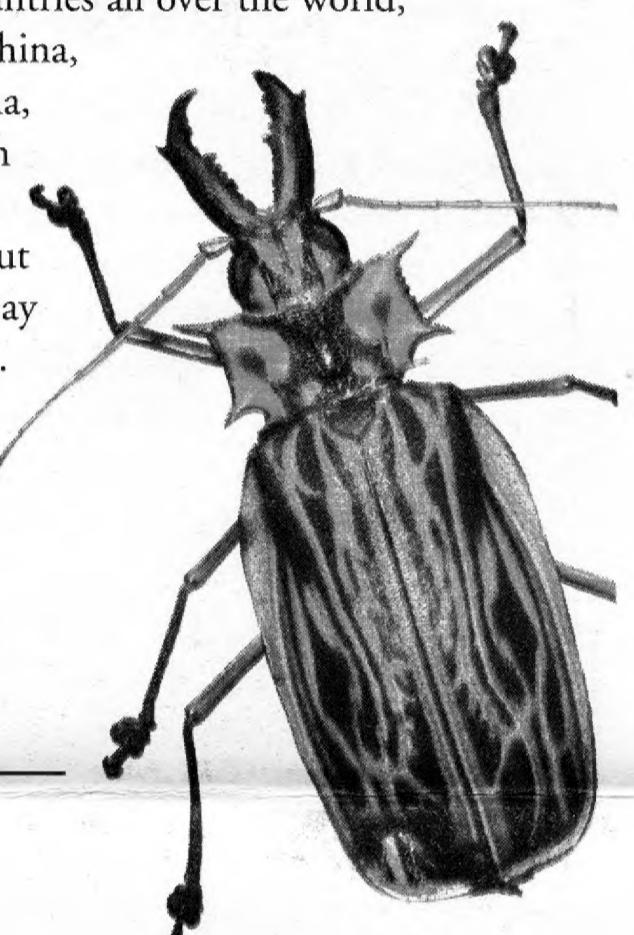
will fly through Wild California Hall. Meanwhile, rainforest plants will fill the Courtyard with greenery, and colorful insects will take over the Goethe Room.

The Academy selected "Rainforests of the World" as the theme for this year's Earth Day festival because these ecosystems, in addition to being some of the richest on Earth, are also some of the most endangered. During the two-day celebration, Academy and community educators and scientists will be on hand to teach visitors about the species that inhabit these wet wonderlands, as well as the things we can do to protect them. The festival will also give the Academy a chance to test programming ideas for the spectacular new rainforest exhibit that will open to the public in 2008, when our new facility opens. Concept designs for this exhibit, which will feature living plants and animals from four different rainforests, are on display in the

Academy's 150th Anniversary Exhibit: *150 Years of Science: Exploring Nature's Wonders*.

Over the course of its 150-year history, the Academy has demonstrated a long tradition of research in the rainforest. Academy researchers are currently working to study and protect rainforest biodiversity in countries all over the world, with projects in China, Madagascar, Burma, Mexico, and South America.

For details about this year's Earth Day festival, see page 2.



Message to Members

Exploring Nature's Wonders

April 4th, 2003 is an auspicious day in the history of the California Academy of Sciences. It is the 150th anniversary of the day when the Academy began and science

established a permanent foothold in the West.

To celebrate this event the Academy has installed a major exhibit, *150 Years of Science: Exploring Nature's Wonders*, that fills two of our halls. There are three separate aspects to the exhibit, presenting, respectively, the Academy's past, present, and future.

The current Academy is represented by an array of display cases, each reflecting the work of a different department within the Academy. Eight of them are research departments where scientists delve into the definitions and descriptions of species, the differences between them, and the habitats they require to thrive. The others include the three departments the public is most familiar with—the museum exhibits, the Aquarium and the Planetarium. More cases show the work of the Education Division—a vital part of our mission—and also two critical support areas, the library, and the instrument shop—that part of our operations responsible for some of the unusual mechanics incorporated into many of the exhibits, such as

the star projector and the pendulum.

A second aspect of the exhibit is the Academy's history. Hanging from the ceiling is a series of illustrations, photographs, and descriptions that highlight the more significant events and achievements of the Academy over these last 150 years and which illuminate how we came to where we are today.

The third element, the Academy's future, presents a series of conceptual drawings and architectural models that will give you a good sense of what the new Academy will look like, inside and out, and the direction of our ideas. None of this is carved in stone at this point, but our ideas are beginning to coalesce. With that in mind, we are holding meetings for Academy members and the public. The next one will be on April 1 in Bernal Heights (see page 4). We hope to see you there.



Dr. Patrick Kociolek

PHOTO: DONG LIN

MEMBER INFORMATION

Guided Tours: Free one-hour highlight tours daily

Open 365 days a year.

Regular hours (Labor Day weekend to Memorial Day) 10 am-5 pm

Summer hours (Memorial Day weekend to Labor Day) 9 am-6 pm

Information Hotline: (415) 750-7145

Web site: www.calacademy.org

Email: info@calacademy.org

For information during the weekend: (415) 750-7375

Special Lectures: (415) 750-7128

Membership: (415) 750-7111

Library: (415) 750-7102

Education: (415) 750-7100

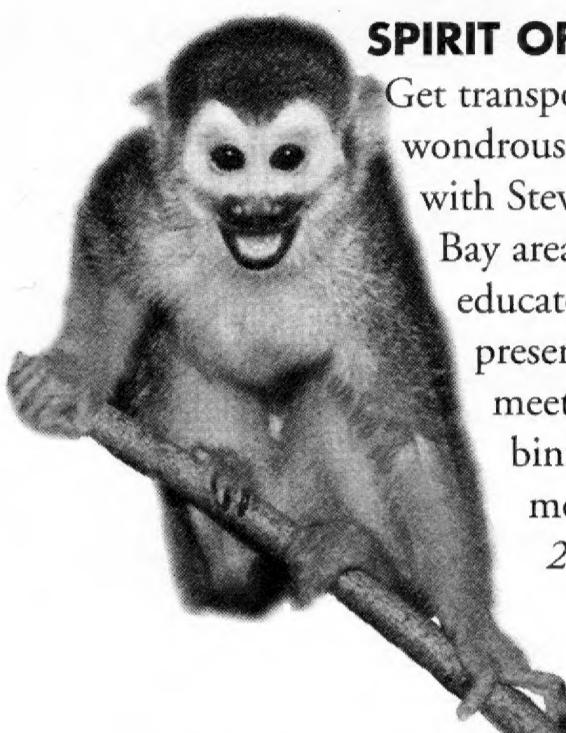
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Earth Day 2003: Rainforests of the World

Saturday, April 5 & Sunday, April 6

Butterflies, birds, and a binturong, oh my! On April 5 and 6, the Academy's halls will be crawling with these and other live animals from many of the world's rainforests, including brightly colored beetles and frogs, free-flying macaws, and even a two-toed sloth. Part of the Academy's annual Earth Day festival, these animals will inspire visitors to celebrate and protect the biodiversity of the world's rainforests. Environmental jugglers and rainforest games will add to the festive atmosphere. All weekend long, visitors who ride their bicycles or take public transit will receive free admission to the Academy. Complimentary, secure bicycle parking will be provided near the front entrance. All Earth Day programs are free after museum admission unless otherwise noted.



SPIRIT OF THE RAINFOREST

Get transported to the most wondrous rainforests in the world with Steve Karlin, a renowned Bay area environmental educator. During this family presentation, visitors will meet a two-toed sloth, a binturong, a squirrel monkey and a kinkajou. 2:00 pm both days (F)



ANIMAL EXTRAVAGANZA

One frog, two frog, red frog, blue frog—plus snakes, skinks, geckos and iguanas, too! Have a head to head encounter with these exceptional animals, and meet their keeper, naturalist Chris Giorni.

10:00 am–4:00 pm both days (F)

BIRDS OF THE TROPICAL RAINFOREST

Experience the flying skills, natural behaviors, and sounds of birds from tropical rainforests around the world in this exciting 25-minute program. Academy naturalist Juan-Carlos Solis and world-renowned bird handler Joe Carvalho will introduce you to free flying scarlet macaws from the Amazon basin, rare eclectus parrots from Papua New Guinea, and much more. 11:30 am, 1:30, 3:00 and 4:00 pm both days (F)

DO THE LEMUR LEAP WITH THE ZOO

Join the San Francisco Zoo in learning about some of the rainforest's longest leapers—lemurs! Test your jumping skills and see how you measure up. 11:00 am–3:00 pm both days (F)

RAINFOREST TOUR WITH STRYBING ARBORETUM

Compare plants from a high elevation rainforest, or cloud forest, with plants from California's redwood forest. Then join guides from Strybing Arboretum for a walk through their cloud forest groves just down the street. 10:00 am–5:00 pm both days (F)

TALES FROM THE RAINFOREST

Hear traditional tales from various peoples living in the world's rainforests, including one from Guatemala and Belize, "about a monstrous creature called a 'Cincimite' that looks like an enormous, hairy human—until you notice that its feet are on backwards." 1:00 pm Saturday (F)

PRODUCT SAMPLING

Join Odwalla and Whole Foods Market in sampling organic, sustainably harvested fruit juices and rainforest foods. Aveda will also be on hand to demonstrate beauty products that contain extracts from sustainably harvested Brazil nuts. Both days (F)

MINI-FILM FESTIVAL

Come see award-winning rainforest documentaries from the International Wildlife Film Festival and Academy research films. Drop in anytime, stay as long as you like and eat low on the food chain with vegetarian, fully compostable brown bag lunches. Films are free, fee for lunches.

11:30 am–1:00 pm both days (F)

FAMILY STORYTIME

Join Academy librarians for stories from the rainforest in this weekly lap-sit program for young children. 10:30 am both days (F)

THE RAINFOREST CRAFT CENTER

Make your own tree-free paper or get creative with an all-recycled art activity from S.C.R.A.P. 11:00 am–5:00 pm Sunday (F)

THE RAINFOREST BUG ROOM

Spectacular insects are one of the trademarks of the world's tropical rainforests. Come see the Academy's "Oh My!" collection of insect specimens and get your hands on some living creepy crawlies—if you dare! 11:00 am–5:00 pm Saturday (F)



A special thank you goes out to the San Francisco Department of the Environment, the Randall Museum and the California Department of Conservation, Recycling Division for their participation in the festival.

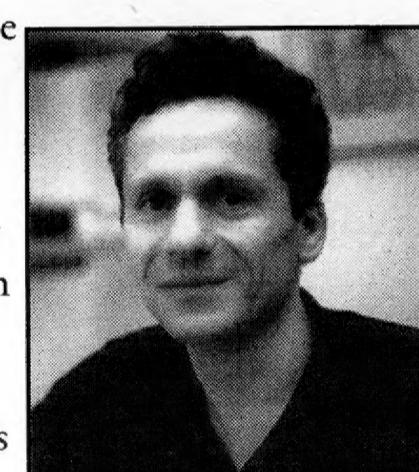
The Nature of "Nature" in the Amazon Basin

IGARAPÉ GUARIBE, BRAZIL—The Amazon is not what it seems. Through the centuries, explorers and scientists alike have placed an emphasis on the pristine nature of one of the greatest strongholds of biological diversity—the Amazon basin. Contrary to this long-held view, Hugh Raffles, an associate professor of anthropology at the University of California at Santa Cruz, contends that the reality is quite different. The Amazon is in fact a dramatic interplay of centuries-old human manipulation and nature's ability to thrive after natural and manmade disturbances.

Rather than downplaying human agency in the Amazon, Raffles examines the impact of a wide range of people—from 16th-century explorers and their native rivals to the 19th-century naturalists and contemporary ecologists, logging company executives, and river-traders. By following the history of one small community in the Brazilian Amazon, Raffles explains how humans, animals, rivers, and forests all participate in the making of a region that remains at the center of debates in environmental politics.

Combining richly textured ethnographic research and lively historical analysis, Raffles tells a fascinating story that changes our understanding of the region and challenges us to rethink what we mean by "nature." After the presentation, he will be signing his recently released book, *In Amazonia: A Natural History*.

Thursday, May 8, 7:30 pm, \$6 members/\$8 non-members (D)

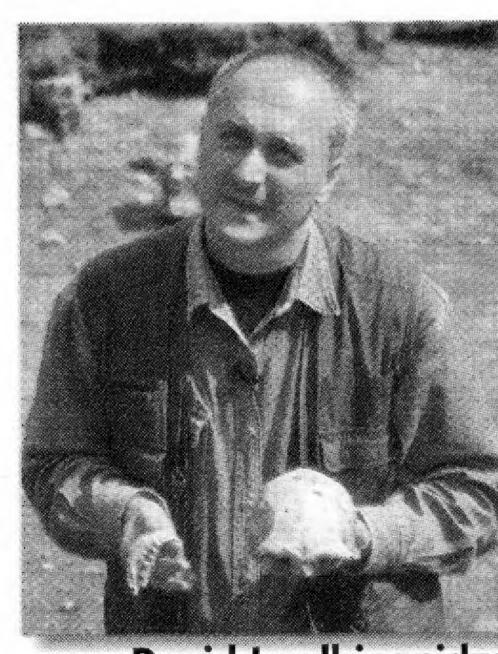


Hugh Raffles

2003 Leakey Speaker Series

Living off the Land: Early Hominid Diets

Margaret Schoeninger
Thursday, April 3, 7:30 pm
\$6 members/\$8 non-members
See page 4 for description. (D)



David Lordkipanidze

Early Humans Out of Africa

David Lordkipanidze
Thursday, April 24, 7:30 pm
\$6 members/\$8 non-members
See page 4 for description. (D)

Conversations at the Herbst Theatre 2003

Presented by City Arts & Lectures, Inc.
All Programs at Herbst Theatre, 8:00 pm

April 22
Tuesday

W. S. Merwin

poet
The Mays of Ventadorn • Flower & Hand
In conversation with Renée Rothmann

May 14
Wednesday

Russ Mittermeier

primatologist, president Conservation International
Megadiversity • Hotspots

David Quammen

science writer
Song of the Dodo • Boiler Plate Rhino
In conversation with John McCosker

May 22
Thursday

Matt Ridley

science writer
Genome • Nature via Nurture
In conversation with Roy Eisenhardt

Lecture: \$16 members/\$18 non-members (D)
This series is made possible, in part, by a grant from the Richard and Rhoda Goldman Fund.

To order tickets, please call
City Box Office at (415) 392-4400.
www.cityboxoffice.com

California Academy of Sciences does not process ticket orders for these lectures.

i For more information about lectures, call (415) 750-7096 or visit www.calacademy.org/lectures. For tickets, see form on page 7.

(F) / (F) = Free to all/Free to members

www.calacademy.org

(D) = Discounted for members

Adventures at Tomales Bay

Academy Naturalist David Wimpfheimer leads two special adult field trips in and around Tomales Bay during the fourth weekend of April. Participate in either or both for a memorable weekend in one of California's most beautiful regions. Individual prices for each are below; together they cost \$145 non-members/\$130 members. **D**

Hiking the Tomales Bay Watershed – On four hikes of two miles each, focus on the varied ecosystems and wildlife of the Mount Tamalpais watershed. On the mountain's upper slopes, walk along Cataract Creek, where orchids grow below firs and redwoods. Near sea level, Lagunitas Creek wanders through a lush riparian zone of willows and alders. At day's end, stand along the San Andreas Fault as the creek flows into Tomales Bay. *Saturday, April 26, 9:00 am–5:00 pm \$45 non-members/\$35 members* **D**

Kayaking Tomales Bay – Kayak 4 to 5 miles on one of the most pristine and productive estuaries on the West Coast. No kayaking experience is necessary, and all equipment is provided. *Sunday, April 27 9:00 am–3:30 pm \$120 non-members/\$110 members* **D**

Mysteries of the Mayan Underworld

Join a group of cave-diving explorers on a descent into the strange, mysterious Mayan underworld of the Yucatán Peninsula. Instructed by wilderness educator Jim Wiltens. *Seminar for Families with Children Ages 8 and up—Thursday, April 10 6:30–8:30 pm \$30 adults/\$25 children, non-members; \$20 adults/\$15 children, members* **D**

Spring Wildflowers of Pepperwood

Roam the oak woodlands and grasslands of the Academy's Pepperwood Preserve in Santa Rosa at the height of the spring wildflower season. Instructed by resident naturalist Michael Gillogly. *Adult Field Trip for Ages 15 and up—Sunday, April 13 10:00 am–3:00 pm \$45 non-members/\$35 members* **D**

Rising From the Ashes

Take a behind-the-scenes tour of the Academy's Anthropology Department to look at some of the objects rescued from the 1906 San Francisco earthquake. Discover this part of the Academy's early history, including its first curator of anthropology, Alfred Kroeber. Instructed by Academy anthropologist Russ Hartman. *Adult Seminar and Behind-the-Scenes Tour—Thursday, April 17 7:00–9:00 pm \$30 non-members/\$20 members* **D**

Photographing Wildflowers

Capture the beauty of wildflowers on film. Get tips on equipment, composition, and creative techniques to improve your images, and try out your new skills at nearby Strybing Arboretum. Instructed by photographer Chris Kibre. *Adult Seminar and Field Trip—Sunday, May 4 10:00 am–3:00 pm \$40 non-members/\$30 members* **D**

The Heyday of Natural History

Never has science been held in higher esteem and the public taken a bigger interest in natural history than during the mid-19th century in America and Britain when most of today's renowned science museums, including the Academy, were established. Explore this fervor and how Charles Darwin's *Origin of Species* eventually undermined it. Instructed by science historian John Dillon. *Adult Seminar—Tuesday, May 6, 7:00–9:00 pm \$30 non-members/\$20 members* **D**

Illustrating Mammals From the Inside Out

Discover mammal anatomy, and learn to draw them from the inside out. Learn how to interpret what you see and accurately draw animal forms with pencil in this intensive workshop. Instructed by naturalist Jack Laws. *Adult Workshop—Saturday, May 10, 9:00 am–4:00 pm \$65 non-members/\$55 members* **D**



Paddle and play on Tomales Bay.

3

PHOTO: CAS EDUCATION STAFF

San Francisco's California Quail

Visit some of the California quail's favorite haunts in the Presidio, and learn about its fascinating biology and the science being used to save the city's last populations. Instructed by birder Alan Hopkins. *Adult Field Trip—Sunday, May 11 8:00 am–12:00 pm \$40 non-members/\$30 members* **D**

Recycled Basketry

Make a strong, long-lasting basket and reduce landfill by reusing the plastic shipping straps on boxes. Instructed by basket weaver Kathleen Hubbard. *Workshop for Families with Children Ages 8 and up—Saturday, May 31, 10:00 am–4:00 pm \$50 adults/\$45 children, non-members \$40 adults/\$35 children, members* **D**

i For registration information and more details, including other course offerings, call (415) 750-7100 or visit www.calacademy.org/education.

Junior Academy Classes & Camps

Spring holiday classes for children ages 6–14 will be held at the Academy April 15, 16, 17, 22, 23, and 24. Summer Camp Academy registration begins April 10. Visit www.calacademy.org for more information.

Morrison Planetarium

April Dean Lecture The Black Hole at the Center of Our Galaxy

Could Einstein have possibly anticipated directly testing the most captivating prediction of general relativity, that there exist isolated pockets of

spacetime shielded completely from our own? Now, almost a century later, just such an entity has been found lurking at the center of our galaxy.

Dr. Fulvio Melia from the University of Arizona will discuss this supermassive black hole in the Milky Way

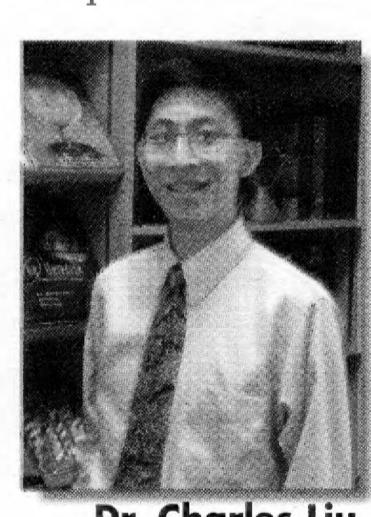
and the mounting excitement in the astronomical community over the idea that we might be on the verge of actually seeing this exotic object within the next few years. Following the lecture, Dr. Melia will be signing copies of his new book *The Black Hole at the Galactic Center*. *Tuesday, April 15 7:30–9:00 pm, \$3*



Dr. Fulvio Melia

May Dean Lecture The Farthest Stars

How did the first galaxies form? The answer can be found only when we find the farthest stars, formed nearly 13 billion years ago. In our quest to find the first points of light in the cosmos, we are also learning about the universe itself—how it began, how it has aged, and how it will most likely end. Dr. Charles Liu from the American Museum of Natural History will speak about these oldest stars and the formation of the first galaxies in the universe. *Tuesday, May 27, 7:30–9:00 pm, \$3*



Dr. Charles Liu

Astronomy Day

Celebrate the 30th anniversary of Astronomy Day, created to share the joy of astronomy. In addition to our regular planetarium shows, Morrison Planetarium will be hosting hands-on astronomy activities for kids and families, and solar observing through special telescopes (weather permitting). Co-sponsored by NASA's Solar System Ambassador Program. *Saturday, May 10, 10:00 am–2:00 pm*

Book Signing Echo of the Big Bang

A group of scientists and engineers spent eight years building a satellite designed, in effect, to read the genome of the universe. The Microwave Anisotropy Probe (MAP) has finally reported in—and it's found things nobody ever expected. Telling the full story of MAP and its surprising revelations, this book is both a personal and scientific tale of discovery. Michael D. Lemonick is a senior science writer at *Time* magazine, where he has written more than forty cover stories on a wide range of science-related topics. His books include *The Light at the Edge of the Universe* and *Other Worlds*. *Tuesday, May 6, 7:30–9:00 pm, Free* **F**

Sky Shows

When we look at the night sky, we're looking so far across space that the light of distant stars took years—if not centuries—to reach our eyes. For example, the light we see tonight from the Hyades star cluster in Taurus the Bull left its stars when the California Academy of Sciences was founded in 1853! In *150 Years From Earth*, we look at this and other objects in the heavens within the distance that light has traveled in the past 150 years.

150 Years From Earth will be offered weekdays at 2:00 pm and weekends at 2:00 & 3:00 pm.

Stars Over San Francisco—Then and Now, our 50th anniversary show, continues as the second feature at 1:00 pm on weekends. Weekend shows also include the family show, *What's Up?*, at 12:00 pm, and *The Sky Tonight*, our tour of the current night sky, at 4:00 pm.

An expanded weekday schedule will be offered during spring break, April 14–25, with *Stars Over San Francisco—Then and Now* at 12:30 pm, *150 Years From Earth* at 2:00 pm and *The Sky Tonight* at 3:30 pm. A weekend schedule will be offered on Memorial Day, Monday, May 26.

i Members may exchange their planetarium vouchers for free tickets to Sky Shows at the Planetarium Ticket Booth in Gary Larson Hall, starting 30 minutes before each show. Additional tickets may be purchased 30 minutes before each show. \$2.50 for adults & \$1.25 for children 6–17 and senior citizens over 65. Shows are approximately 40 minutes in length. For more information, call (415) 750-7141 or visit www.calacademy.org/planetarium. Schedules subject to change.

APRIL

1 TUESDAY

Community Conversations

You are invited to join Dr. Patrick Kociolek for a Community Conversation to learn more about plans for the Academy's future. Held at the Bernal Heights Neighborhood Center, 515 Cortland Avenue, San Francisco. 6:30 pm **FP**

2 WEDNESDAY

Melody of China

Experience traditional Chinese music with a performance by the ensemble Melody of China. Led by multi-instrumentalist Hong Wang and *yangqin* (hammered dulcimer) master Yangqin Zhao, Melody of China performs thousand-year-old court music, dramatic contemporary compositions, earthy folk songs, and the thundering beats and choreographed movements of folk drumming. Program presented by Young Audiences of the Bay Area. 1:00 pm **FP**

Make A Skull

Examine real skulls and then make a simple machine skull model of your own. All ages. 12:30 pm–3:30 pm **FP**

3 THURSDAY

Living off the Land: Early Hominid Diets



Margaret Schoeninger

The fossil record indicates that our early ape-like ancestors ate largely fruit and leaves, yet by 1.8 MYA, *Homo erectus* are thought to have been hunters as well as gatherers of plant foods. Schoeninger considers evidence from living and fossil primates, modern human foragers, and bone chemistry to address this dietary change.

\$6 members/\$8 non-members. For tickets, see page 7. 7:30 pm **L**

How Do They Do That?

How do animals locate prey without seeing it or hearing it? Or swallow prey bigger than their heads? Explore animal senses by looking at skulls. 11:30 am & 1:30 pm **FP**

5 SATURDAY

Earth Day 2003: Rainforests of the World

For a complete listing of events see page 2.

6 SUNDAY

Earth Day 2003: Rainforests of the World

For a complete listing of events see page 2.

9 WEDNESDAY

A Toad Less Traveled

Bob Drewes

Join Drewes, an Academy scientist for 32 years, as he reflects upon his beginnings as a field biologist, recounts his most exciting adventures in Africa's wild places, and explores his most intriguing research projects back home in his herpetology lab. Drewes recently published East Africa's first reptile field guide, the result of a collaboration with three "old Africa hands." Free to members/\$8 non-members. See page 7 for tickets. 2:00 & 7:30 pm **L**

10 THURSDAY

Mysteries of the Mayan Underworld

Reservations required for this seminar. See page 3 for more info. 6:30 - 8:30 pm **FC**

How Do They Do That?

See April 3 for description. 11:30 am & 1:30 pm **FP**

12 SATURDAY

Make A Skull

See April 2 for description. 12:30 pm–3:30 pm **FP**

The Banff Mountain Film Festival

Big screen outdoor adventure and stories of courage and passion that amaze and inspire. Presented by Eagle Creek Travel Gear and National Geographic Society. Proceeds benefit Junior Academy scholarships. *Morrison Auditorium*. Tickets available at all local REI stores. Check out www.rei.com, or call 510-527-4140 ext 206 for more info. 7:00 pm

13 SUNDAY

The Banff Mountain Film Festival

See April 12 for description. 7:00 pm

Spring Wildflowers of Pepperwood

Reservations required for this fieldtrip. See page 3 for more information. 10:00 am–3:00 pm **AC**

15 TUESDAY

Owl Pellets

Look for skulls in owl pellets and find out who is on the menu. We'll provide owl pellets, dissecting tools, and skull identification guides. 11:30 am **FP**

Dean Lecture: Black Hole at the Galactic Center

See page 3 for details. 7:30–9:00 pm **L**

17 THURSDAY

Rising from the Ashes

Reservations required for this seminar and behind-the-scenes tour. See page 3 for more information. 7:00–9:00 pm

How Do They Do That?

See April 3 for description. 11:30 am & 1:30 pm **FP**

19 SATURDAY

The American Tradition of Belly Dance

Dancers from Zambalita present an overview of belly dancing as it has evolved in the American context. This performance will include tribal and cabaret styles, as well as sword and veil dances. 1:00 pm* **FP**

Live Penguins

See live penguins up close and learn about their history at the Steinhart Aquarium. Biologist and penguin keeper Pamela Schaller will share with us what it's like to care for wet feathered friends and the Aquarium's role as Species Survival Plan member. 1:30 pm **FP**

Make A Skull

See April 2 for description. 2:30 pm–3:30 pm **FP**

20 SUNDAY

Name That Skull

Learn some tips for identifying skull features, then play the naming game with a variety of bird, mammal and reptile skulls. 11:30 am & 1:30 pm **FP**

22 TUESDAY

W. S. Merwin

Held at the Herbst Theatre on Van Ness Street.

See page 2 for more information. 8:00 pm **L**

24 THURSDAY



The Leakey Foundation

Early Humans Out of Africa

David Lordkipanidze

The human exodus from Africa that began global colonization remains one of the greatest mysteries in paleoanthropology. Dated at 1.7 to 1.8 million years ago, hominid remains at the Dmanisi site in the Southern Caucasus of the Republic of Georgia are the oldest undisputed remains ever unearthed outside Africa. Lordkipanidze, the co-director of the excavations, contends that these fossils represent the missing link between Africa, Asia, and Europe. \$6 members/\$8 non-members. For tickets see page 7. 7:30 pm **L**

How Do They Do That?

See April 3 for description. 11:30 am & 1:30 pm **FP**

Academy's Skull Tour

After dark sets in, come to the Academy to tour the Skulls Exhibit. You'll not only learn about the biology of some of the 1,700 skulls on display, but also their individual history as told by Raymond "Bones" Bandar. Bandar, an Academy Field Associate with the Ornithology and Mammalogy Department, is the major force behind the collection and preparation of most of the skulls on display. Ages 9 and up. \$2 members/\$5 non-members. Reservations required call (415) 750-7348 7:00–8:20 pm

26 SATURDAY

Hiking the Tomales Bay Watershed

For more information, see page 3. 9:00 am–5:00 pm **AC**

Make A Skull

See April 2 for description. 12:30 pm–3:30 pm **FP**

The San Francisco Bay:2K Project

See real specimens from the bottom of San Francisco Bay and explore the biodiversity of the largest estuary in the Western United States. The SF Bay:2K project studies the bottom-dwelling fauna in San Francisco Bay, and provides hands-on science education for high school teachers and students. 2:00 pm **FP**

27 SUNDAY

Kayaking Tomales Bay

Reservations required, see page 3 for more information. 9:00 am–3:30 pm **AC**

30 WEDNESDAY

Members' Open House

Come see the Academy's millions of hidden treasures. Do not miss this exciting event! See page 8 for more information. 6:00–9:00 pm **SP**



See the Academy's hidden collections of scientific specimens during Members' Open House.

L = Lecture (415) 750-7096

PE = Planetarium Event (415) 750-7127

FP = Free Family Program (415) 750-7145

FC = Family Class (415) 750-7100

AC = Adult Course (415) 750-7100

SP = Special Program (415) 750-7145

MAY

1 THURSDAY

Bare Bones

Take a crash course on recognizing animals by their skulls alone. Examine human, hyena, turtle and rodent skulls, learning important details used by experts to compare species. 11:30 am & 1:30 pm **FP**

3 SATURDAY

Make A Skull

See April 2. 12:30-3:30 pm **FP**

Sculptured Waxwork Candles

Totonac Artist Jun Tiburcio, visiting from Veracruz, Mexico, crafts sculpted candles embedded with seeds. Burning these creations reminds us of both the beauty and the evanescence of all things. Examples of Jun's work in various other media will also be on display. 1:00-3:00 pm* **FP**

4 SUNDAY

Mysterious Victims

Examine the hunting technique of hawks, eagles and other flying predators, then help reconstruct the scene of the crime as we identify the skulls of their prey. 11:30 am & 1:30 pm **FP**

Photographing Wildflowers

Reservations required for this seminar and field trip. See page 3 for information. 10:00 am-3:00 pm **AC**

6 TUESDAY

The Heyday of Natural History

Reservations are required for this seminar. See page 3 for more information. 7:00-9:00 pm **AC**

Booksing: Echo of the Big Bang

See page 3 for more information. 7:30-9:00 pm

7 WEDNESDAY

Gamelan Sekar Jaya

Gamelan Sekar Jaya, a troupe of dancers from Indonesia, will guide you through the music and dance of Bali. Dances and musical excerpts will be performed along with a discussion of their background. 1:00 pm **FP**

Make A Skull

See April 2 for description. 12:30-3:30 pm **FP**

8 THURSDAY

The Nature of "Nature" in the Amazon

For more information see page 2. \$6 members/ \$8 non-members. 7:30 pm **L**

Bare Bones

See May 1 for description. 11:30 am & 1:30 pm **FP**

10 SATURDAY

Illustrating Mammals

Reservations are required for this workshop. See page 3 for more information. 9:00 am-4:00 pm **AC**

Astronomy Day Activities

See page 3 for description. 10:00 am-2:00 pm **FP**

continued from Saturday, May 10

Japanese Paper Origami

Fold your own origami figure to take home, and learn about the traditional Japanese art of paper Origami. Master origami artist Vicki Mihara Avery will be onsite to explain the cultural meaning of this traditional Japanese craft. Program in honor of Asian Pacific American Heritage Month. **FP**

11:00 am-4:00 pm

Make A Skull

See April 2 for description. 12:30-3:30 pm **FP**

Andean Village Music

Edmond Badoux and Francy Vidal of Chaskinakuy perform village music from the Andean highlands on a wide selection of traditional instruments, including bone flutes and an upside-down harp. 1:00 pm* **FP**



PHOTO: IRENE YOUNG

11 SUNDAY

MOTHER'S DAY

Academy members who are mothers, together with their families, receive free admission to the EXPLORATORIUM and the SAN FRANCISCO ZOO on this special day. Present your membership card at these facilities.

San Francisco's California Quail

Reservations are required for this field trip. See page 3 for more information. 8:00 am-12:00 pm **AC**

Mysterious Victims

See May 4 for description. 11:30 am & 1:30 pm **FP**

14 WEDNESDAY

Russ Mittermeier & David Quammen

Held at the Herbst Theatre on Van Ness Street. See page 2 for more information. 8:00 pm **L**

Science Illustration

Meet Academy scientific illustrator Virginia Kirsch and watch a live demonstration of scientific illustration of real insects. 11:30 pm-4:00 pm **FP**

15 THURSDAY

Bare Bones

See May 1 for description. 11:30 pm-4:00 pm **FP**

Science Illustration

See May 14 for description. 11:30 pm-4:00 pm **FP**

16 FRIDAY

Science Illustration

See May 14 for description. 11:30 pm-3:00 pm **FP**

Dancing Through Time

18th Annual Academy Ball

See page 7 for more information. 6:30 pm-12:00 am

17 SATURDAY

Make A Skull

See April 2 for description. 12:30-3:30 pm **FP**

Science Illustration

See May 14 for description. 11:30 pm-4:00 pm **FP**

Hawaiian Kapa

The beating of plant fibers into a fine cloth known as *kapa* is an ancient art in Hawaii. Malia Lealao will discuss and demonstrate this traditional craft. See page 8 for more Asian Pacific Heritage Month programs. 1:00-3:00 pm* **FP**

18 SUNDAY

Mysterious Victims

See May 4 for description. 11:30 am & 1:30 pm **FP**

20 TUESDAY

Owl Pellets

See April 15 for description. 11:30 am **FP**

22 THURSDAY

Bare Bones

See May 1 for description. 11:30 am & 1:30 pm **FP**

Matt Ridley

Held at the Herbst Theatre on Van Ness Street. See page 2 for more information. 8:00 pm **L**

24 SATURDAY

Chinese Calligraphy

Meet Chinese calligraphy master You Shan Tang, and take home your own name written in the form of Chinese calligraphy. For several millennia, the art of Chinese calligraphy has been central to Chinese culture where it is regarded to be one of the most revealing powers of a person. Program in honor of Asian Pacific American Heritage Month.

11:30 am-4:00 pm

Make A Skull

See April 2 for description. 12:30-3:30 pm **FP**

27 TUESDAY

Dean Lecture: The Farthest Stars

See page 3 for details. 7:30-9:00 pm **L**

29 THURSDAY

Bare Bones

See May 1 for description. 11:30 am & 1:30 pm **FP**

31 SATURDAY

Recycled Basketry

Reservations are required for this workshop. See page 3 for more information. 10:00 am-4:00 pm **FP**

The Magic of Chinese Music

Led by Betty Anne Siu Junn Wong, local and visiting Chinese musicians perform vocal and dance solos from Kunqu opera, and play the *jinghu* (opera fiddle), *yangqin* (butterfly dulcimer), and other instruments. See page 8 for more Asian Pacific Heritage Month programs. 1:00 pm* **FP**

Make A Skull

See April 2 for description. 12:30-3:30 pm **FP**

Live Penguins

See April 19 for description. 1:30 pm **FP**

Great Blue Herons

Great blue herons have been nesting and raising their chicks in Golden Gate Park since 1993, when Nancy DeStefanis, Director of San Francisco Nature Education, discovered the charismatic birds. 53 chicks have since learned to fly at the Stow Lake colony. Discover San Francisco's largest nesting waterbirds for yourself.

Meet at Stow Lake Boathouse each Saturday from April 5 through May 31 and follow the signs to the Heron Explainers Project (part of SFNE) where Academy interns and DeStefanis will be stationed with spotting scopes and offer spectacular views into the heron's nests as well as answer questions about these amazing birds' habits and behaviors. Hours 10:00 am to 1:00 pm.

Programs in black are held at the Academy and do not require reservations. Programs in blue require reservations and/or are not held at the Academy – see individual listings for details.

* Traditional Arts Programs are free; no reservations are needed. For further information on these and other Traditional Arts Programs, contact Dr. Jennifer Michael at (415) 750-7165, or visit www.calacademy.org. The Traditional Arts Program is funded by the Paul L. and Phyllis Wattis Foundation.

The Fish in Steinhart Aquarium – Girl, Boy or Both?

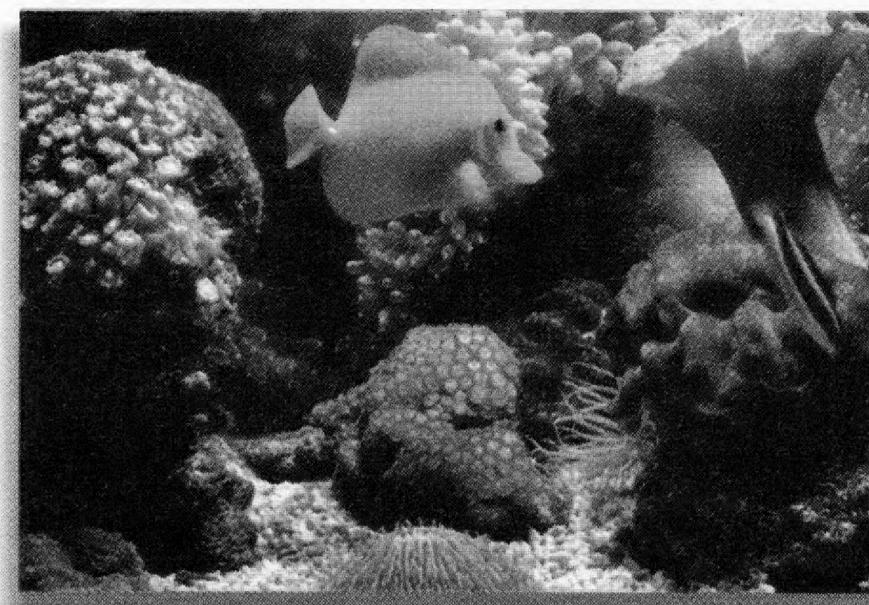
It is difficult for an aquatic biologist to be a sexist when it comes to the Steinhart Aquarium's fish; we often don't know their sex. The primary difference between male and female fish are their sex organs: either testes or ovaries. However, some fish have both.

Although fish with both sets of organs are a small percentage of total fish, these hermaphroditic fishes further complicate the picture by changing from male to female or female to male after spending juvenile years as male/female hermaphrodites.

The Aquarium has five types of hermaphroditic fishes:

- In tank 4, the California halibut may have spent a short time after hatching as a hermaphrodite. This is known as "Accidental Hermaphroditism."

- Also in tank 4 is the giant sea bass, which begins life as a hermaphrodite, then matures to be a female before ending life as a male. The California sheepshead in Tank 10 is another "protogynous hermaphrodite" in female "secondary sexual characteristic" dress. When a



Is this fish male or female? It might just depend on the time of day.

male, the head will be black.

- Tank 14 holds the Hamlet which is a "simultaneous hermaphrodite." Both gonads are in the same individual fish throughout its life.

- The princess parrotfish in tank 14 is an "unreversible hermaphrodite," which may mature directly into a male or to a hermaphrodite before maturing into a female, or vice versa.

A group of hermaphrodites called "secondary hermaphrodites" change sex after spawning as the opposite sex. The Barramundi, a relative of the Nile perch, in tank 72 spawns as a male then changes to a female.

If you visit the Coral Reef Display often check the different "harems" of fairy basslets. Each harem has a leader, a colorful male. One of the females, usually the largest, dominates and will change sex to a male if the male disappears.

If you see a sea bass, sheepshead, wrasse, grouper or parrotfish don't discriminate against it for its sex. Given enough time, it will probably change!

— Tom Tucker, ttucker@calacademy.org

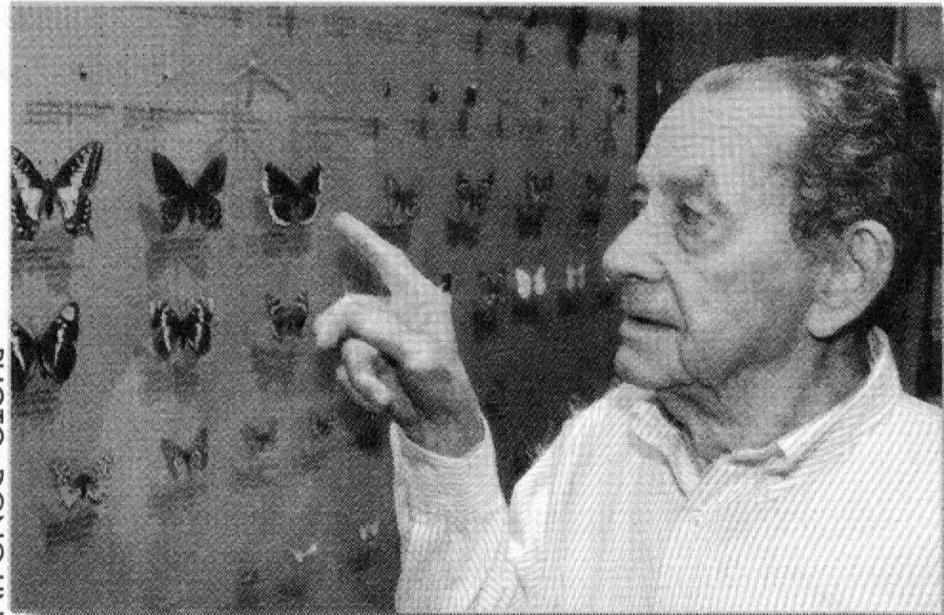
Volunteer Profile

24 Years and Still Counting

"Bob Langston knows more about butterflies than any other person in the Bay Area," says Norm Penny, the Academy's entomology collection manager.

"Just about," Langston acknowledges. As a volunteer curator for over 24 years, he comes to the Academy on a regular basis to share an encyclopedic knowledge gleaned from a career as an entomologist and from a lifetime of collecting butterflies and moths.

In the tradition of famed lepidopterists, an entomologist who specializes in collecting and studying butterflies and moths, Bob started collecting as a young child. As a boy scout and on family outings in Southern California he was able to enhance his knowledge of the diverse regional fauna during visits to the surrounding mountains and desert areas.



Bob Langston explaining the butterfly collection in the Academy's Insect Room.

Bob completed a degree in entomology in 1950 from U.C. Berkeley in an era where few universities offered such programs and when most entomological courses were part of agricultural studies. In 1956 he completed an M.S. degree with an emphasis on Biological Control and Insect Pathology enabling him to enjoy a varied and satisfying career.

Bob expresses continued pleasure in working at the Academy: "There is always new stuff to learn, especially about moths. It's not a closed door. I also consider most of the staff my friends; we all get along fine and I enjoy the independence. No one is looking over my shoulder. I'm useful." He is excited about plans for the new Academy but acknowledges the physical move will be hard—"all those compactors!" — referring to the storage system that houses the Academy's 10 million (and counting) entomology specimens.

Bob's fine history of collecting is balanced with an equally fine history of giving. Since 1965 Bob has been donating his considerable collections to the Academy and is now a member of the Eastwood Associates, an honorary association of Academy members formed to recognize and honor people whose gifts assure the future of the Academy.

—Rosalind Henning, rhenning@calacademy.org

i To learn more about becoming a volunteer, call (415) 750-7154.

New Donor Circle Members

November through December 2002: \$125 to \$999

Many thanks to the following new donors and those who have increased their support of the Academy in the last few months.

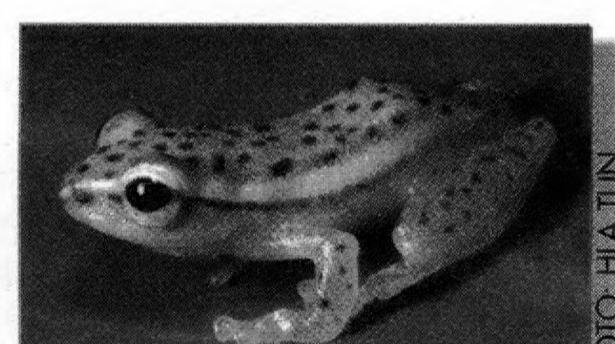
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In Research... The Making of a Museum

Academy scientists help to set up Myanmar's first science museum

Myanmar has a very rich, but poorly understood, herpetofauna (reptiles and amphibians). When the opportunity arose in 1997 to begin documenting this amphibian and reptile diversity, Academy and Smithsonian herpetologists jumped into action, receiving a national science foundation grant. Within the first year of their efforts, a team led by the late snake specialist, Dr. Joe Slowinski, managed to collect specimens representing more than 100 amphibian and reptile species. Many of these specimens were sent back to the Academy for further research, but others were kept in Myanmar—where they would later become some of the earliest collections in the country's newly formed Myanmar Biodiversity Museum.

This museum is the fruit of a collaboration between the Academy, the Smithsonian, and Myanmar's Nature and Wildlife



Currently being described by Academy herpetologist Jeff Wilkinson, new species like this Chirixalus frog will form the first collections of the new museum.

Conservation Division. Since 1997, when Academy herpetologists made their first trip to Myanmar, they have been training local employees from this division in collection techniques and specimen care so that the country can continue to study and protect its biodiversity even after the Academy's work there is done. One important goal of that training has been the establishment of a local biodiversity museum. Today, the Myanmar Biodiversity Museum is little more than a building and a name, but with the help of Academy scientists, it will soon be a fully functional facility.

Senior Collections Manager Jens Vindum is currently in Myanmar meeting a shipment of museum supplies from the Academy, including shelving, specimen jars and lids, books, and scientific journals. Once they arrive, he will begin teaching the museum's employees how to organize and computerize their new collections. Vindum is hopeful that once the Academy's project in Myanmar ends, the Nature and Wildlife Conservation Division will continue to discover and house new species in its Biodiversity Museum. "It's encouraging," he says, "that the four collectors we've trained have already become the country's leading experts in identifying the herpetofauna of Myanmar."

—Stephanie Greenman, sgreenman@calacademy.org

In The Beginning, 150 Years Ago

Just five years after "the sleepy village of Yerba Buena was transformed into the robust and rowdy metropolis of San Francisco" by the discovery of gold in the Sierra foothills, the young city produced a surprisingly ambitious organization, of a type rarely found even in the much older and more "civilized" eastern cities. Gathering in an office on Montgomery Street (one of only two paved city streets), seven men created something that would continue to thrive long after their own lives and research had ended: the California Academy of Sciences.

"The following gentlemen friendly to the organization of an association for the development of the Natural Sciences met by appointment at the Office of L. W. Sloat in the City of San Francisco on the 4th day of April 1853: Dr. Andrew Randall, Dr. Henry Gibbons, Dr. Albert Kellogg, T. J. Nevins, Prof. J. B. Trask, Dr. Charles Farris, Lewis W. Sloat. After a free conversation and the interchange of views and sentiments bearing upon the object contemplated, Dr. Andrew Randall was called to the chair and L. W. Sloat was appointed Secretary. On motion of Mr. Sloat it was after discussion and remark unanimously resolved that it is expedient and desirable that an association be organized for the promotion of Natural Sciences and that the name and style of such organization be 'The California Academy of Natural Sciences.'"

A committee was appointed to draft a constitution and "report the same with suggestions

and remarks." Their report, given on April 11, 1853, concluded with the following inspirational words:

"We have on this coast a virgin soil with new characteristics and attributes, which have not been subjected to a critical scientific examination. Sufficient, however, meets the eye of the naturalist to assure him that this is a field of richer promise in the department of Natural History in all its variety than has previously been discovered. It is due to science; it is due to California, to her sister States, and to the scientific world that early measures be adopted for a thorough survey of every portion of the State and the collection of a cabinet of her rare and rich productions."

The cabinet of specimens began on April 25, 1853 with donations including marine shells from the South Pacific, an otter skin, and small baskets from the Rogue River Indians. The constitution was formally adopted on May 16, 1853 and signed by the Academy's first 27 members.

- Michele Wellck, Academy Archivist
mwellck@calacademy.org

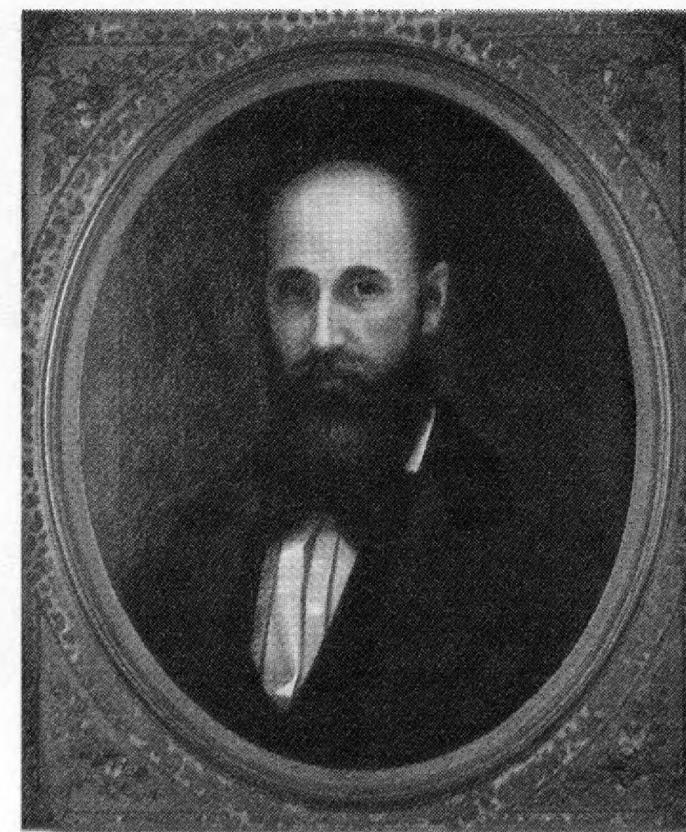


PHOTO: SPECIAL COLLECTIONS/CAS LIBRARY

Andrew Randall: geologist, newspaper editor, and the Academy's first President. Unfortunately, Randall was also active in land speculation, and amassed debts well over \$100,000 that he was unable to pay back. One of his creditors, Joseph Hetherington, murdered him on July 24, 1856, and was tried and executed by the Vigilance Committee.

An Academy Heirloom
The Academy was thrilled to receive in early February the walking stick of Andrew Randall, one of our seven founders and the Academy's first president. The cane has been a cherished Randall family heirloom since 1856, and was donated to the Academy at the wish of Alder Charles Randall, Andrew's great grandson.

Dancing Through Time 18th Academy Ball—Friday, May 16, 2003

On Friday, May 16, from 6:30 pm to midnight, the Academy will celebrate its 150th Anniversary at the 18th Annual Academy Ball, "Dancing through Time." This year's Ball promises to be a fun-filled event, and will be all the more exceptional as joint leadership will be provided by Ball Dinner Chairs from the past 17 years. Dodge and Cox is the corporate sponsor.

Cocktails, champagne and hors d'oeuvres by Dan McCall and Swan Oyster Depot will begin the evening in the tented Courtyard. A seated dinner by McCall's and with Guenoc Wines will be served in African Hall, Steinhart Aquarium and Wild California Hall, followed by a fabulous dessert buffet and dancing to the Dick Bright Orchestra. Costumed characters and talented actors will provide entertainment throughout the evening.



Christine H. Russell and Mark Schlesinger at the 2002 Academy Ball.

Tickets for this year's event begin at \$300 per person. Tables of 10 are available at \$10,000, \$7,500 and \$5,000. Purchasers of tables and individual tickets of \$350 and above will be acknowledged in the Dinner Program. Proceeds benefit research and education.

For further information, please contact the Special Events Office at (415) 750-7222 or email dkernan@calacademy.org. You may also purchase tickets by using the order form below.



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Black Hole at the Center p.3	x\$3	\$3	=
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FIELD TRIPS, SEMINARS & WORKSHOPS

To register for courses and other educational offerings, see page 3.

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Current Exhibits

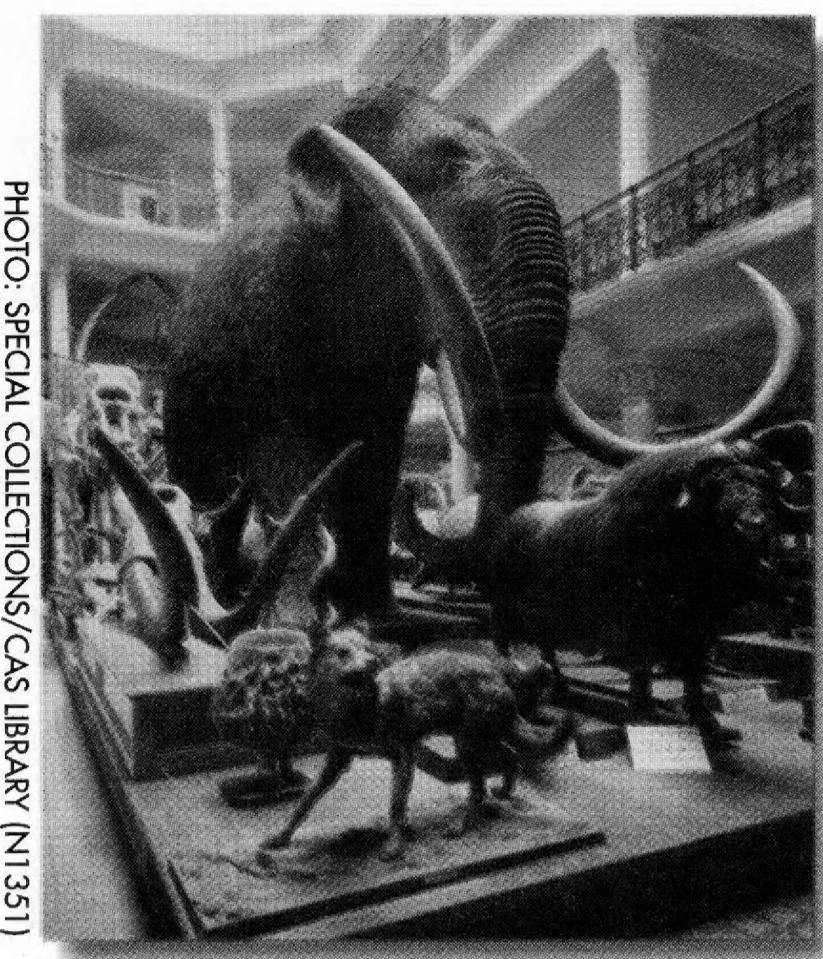


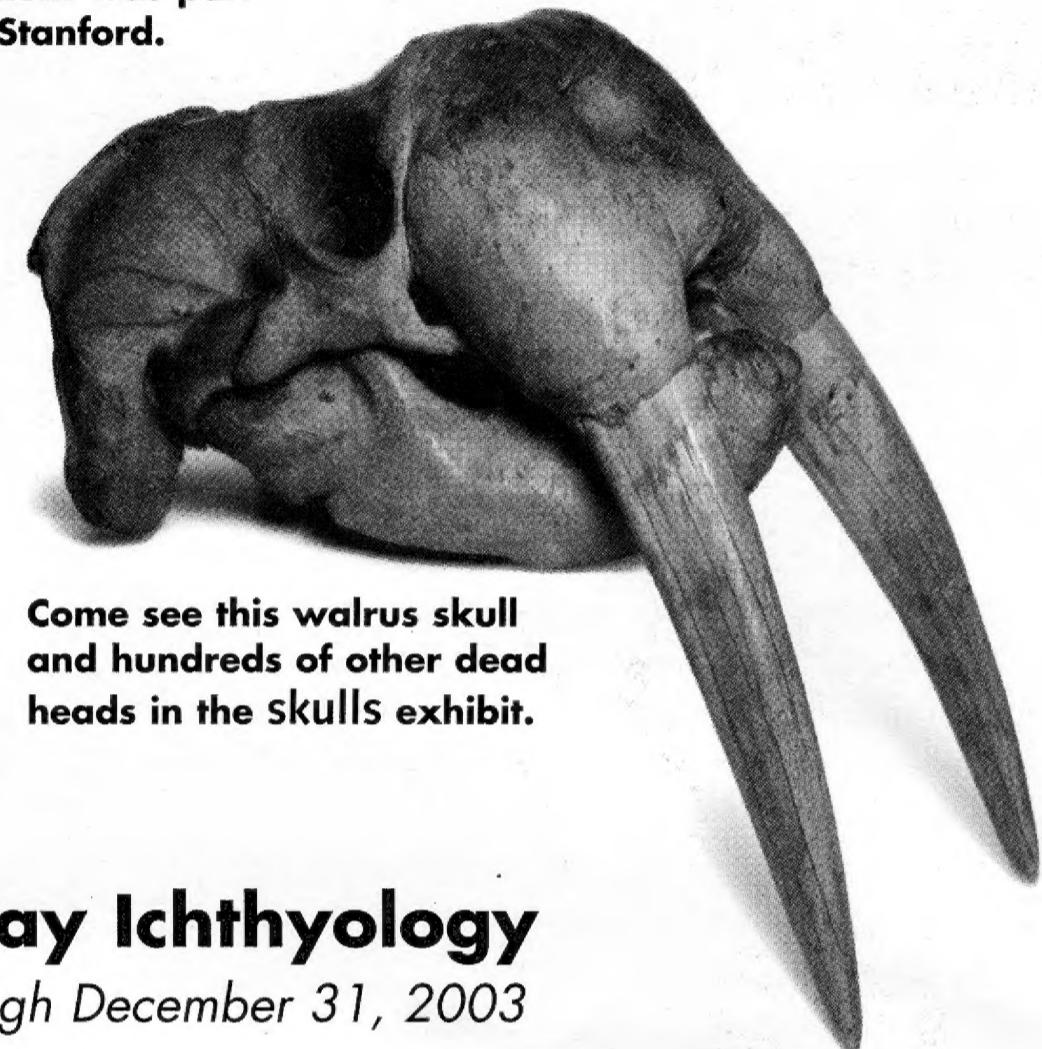
PHOTO: SPECIAL COLLECTIONS/CAS LIBRARY (N1351)

150 Years of Science: Exploring Nature's Wonders

Through December 31, 2003

150 Years of Science: Exploring Nature's Wonders takes a close look at the Academy's long history of research, education and public programs. Come follow an enormous 200 foot-long timeline and walk through 150 years of history as you learn how world events and major discoveries have shaped the pursuit of science and the Academy. See hundreds of previously unseen treasures from the Academy's collections and view plans for the Academy's future.

The old Academy museum on Market Street, before it was destroyed in 1906. The Woolly Mammoth was part of a gift from Charles Crocker and Leland Stanford.



Come see this walrus skull and hundreds of other dead heads in the *Skulls* exhibit.

Skulls

Through December 31, 2003

Thousands of flesh-eating carrion beetles are busy feasting on dead heads. 860 sea lion skulls have been put into position for a display that runs the length of a professional basketball court. And one physical anthropologist is gazing 3.3 million years into the past at a single monkey. All this and more is on display in **Skulls**, an exhibit featuring over 1,700 diverse dead heads, representing animals that range from ancient squirrels to modern mice, and from hawks to humans.

PHOTO: DAVID LIITSCHWAGER ©2002

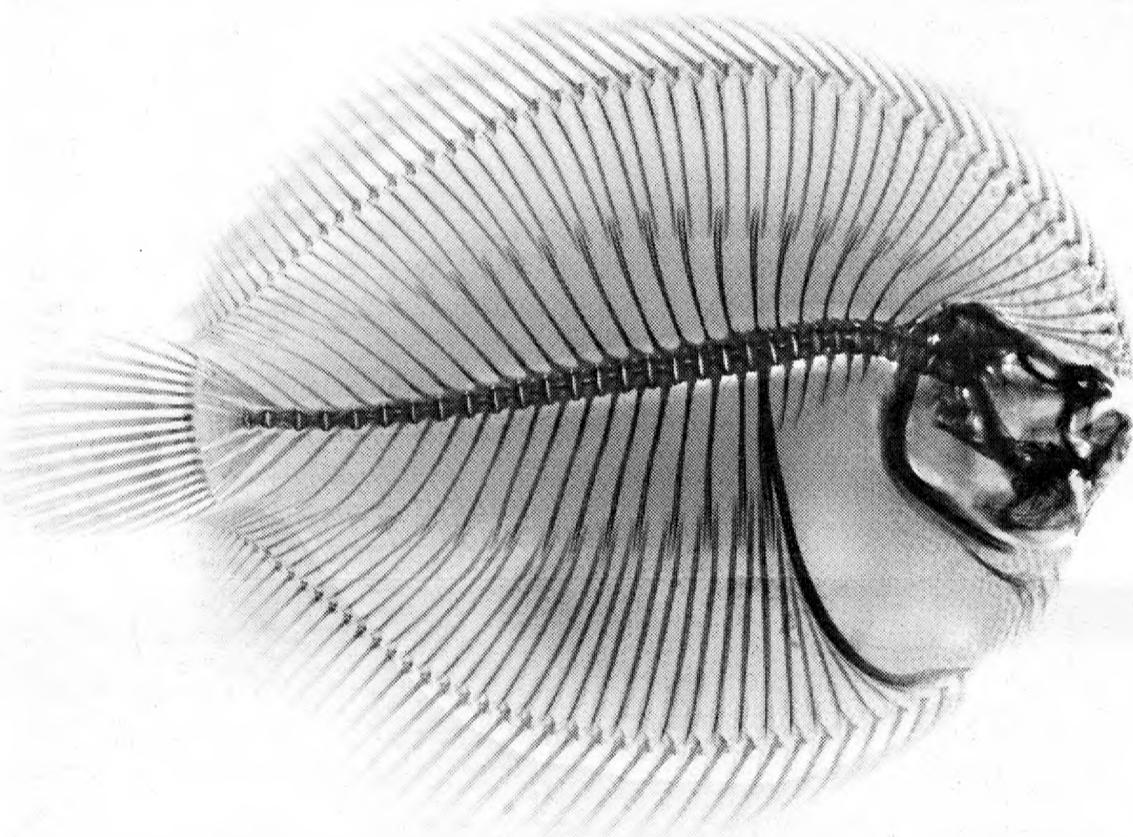


PHOTO: CAS COLLECTIONS

X-Ray Ichthyology

Through December 31, 2003

Are they works of art or part of a serious scientific study? Both. Prepare to look at fish in a whole new light. **X-Ray Ichthyology** captures 46 fish from the Academy's ichthyology collection on X-ray film. Academy scientists originally prepared these X-rays for scientific purposes but quickly saw their artistic value and wanted to share them with the public. Blown up and backlit, these large-format photographs transform scaly swimmers ranging from piranhas to guitarfish into eerie, luminescent works of art.

***Achirus barnharti*—a work of art, a scientific specimen, or both? You decide in *X-Ray Ichthyology*.**

Members' Open House

Join us on this special night when the Academy opens its doors to you, our members, at this year's annual Members' Open House. Meet the scientists and marvel at their extensive collections of fish, bugs, flowers, gems, minerals, reptiles, mammals, anthropological collections and many other items that the public never gets to see. This is one of the few opportunities most people will ever have to be in a room filled with millions of fish, insects or other animals.

We guarantee you'll see some of the most amazing natural history specimens this planet has to offer. Members have fond memories about past Open Houses:

"Going behind-the-scenes was fantastic! My children said everything was amazing."

"I like being able to see the fish from the other side and watching the alligators being fed."

"The best thing about Open House is talking with staff—all were engaging."

"I liked the glowing scorpions."

Scientists also enjoy the interaction with members.

"Open House is the staff's night for feeling proud of this institution; it's collections, field achievements, staff, and published works. Our members are our best audience and have yet to disappoint this biologist!" said Aquarium Curator, Tom Tucker.

Tonight will be the last Members' Open House in Golden Gate Park, so you don't want to miss it! The Academy Café will be open from 6:00 to 8:00 pm. *Wednesday, April 30 6:00–9:00 pm*

Whole Main Floor / Upper & Basement Levels

i **Members' Open House is an exclusive benefit of membership. This is a perfect time to invite your friends to become members so they may attend this event with you. Consider a gift membership, which offers year-round benefits and helps support education and research at the Academy.**

Call (415) 750-7111, fax (415) 750-7346, or e-mail: membership@calacademy.org

Asian Pacific American Heritage Month

Come celebrate Asian Pacific American Heritage Month at the Academy. Below is a complete list of our APAHM activities. More details can be found on the Academy Calendar on pages 4 and 5.

Gamelan Sekar Jaya
Wednesday, May 7, 1:00 pm

Chinese Calligraphy
Saturday, May 24
11:30 am–4:00 pm

Japanese Paper Origami
Saturday, May 10
11:00 am–4:00 pm

The Magic of Chinese Music
Saturday, May 31, 1:00 pm

Hawaiian Kapa
Saturday, May 17, 1:00 pm

Sign Up For Academy Bytes

Get a monthly update of events, lectures, and programs taking place at the Academy. Send an email to info@calacademy.org with "Academy Bytes" in the subject line.